

PATENT SPECIFICATION

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DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Improvements in and relating to Trunking for Electrical Installations.

We, THE POWER CENTRE COMPANY LIMITED, a British Company of, Lloyd Street, Wednesbury, in the County of Stafford, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to trunking for electrical installations and particularly to trunking comprising an open trough adapted to be closed by a closure strip which can be sprung into engagement with the boundary portions of the opening. Such trunking serves to accommodate wiring cables and may also support lighting fittings, junction boxes, and such other components which are normally associated with wiring systems.

An object of this invention is to provide an improved form of such trunking to facilitate the insertion of cables therein and/or the replacement of some or all of the cables and to provide for retaining the cable or cables in the trough when the closure member is disengaged from it.

In accordance with the invention we provide trunking comprising a rectangular open U-section trough, a closure strip which is sprung into engagement with the boundary portions of the opening, the side walls of the trough each being provided at positions inset from the opening, with two inward projections spaced apart to define a recess therebetween, the opposed recesses serving to releasably engage the ends of a bridge member extending transversely across the trough and thereby to hold the bridge member in position.

Conveniently the inward projections extend for the full length of the trough so that a plurality of bridge members can be supported such bridge members being spaced

apart along the trough so that when the closure member is removed the cable or cables will be visible and accessible through the spaces between the members. At the same time the bridge members will serve to prevent the cable from rising out of or falling from the trough. In dependence upon the nature of any particular situation, some or all of the bridge members in a length of trough may be removed to facilitate the installation or removal of one or more cables, and/or the cable may be fed into or withdrawn from the trough through the gaps between the bridge members.

Further in order to facilitate the connecting together of two lengths of trunking by means of a coupling member internal formations are adapted to releasably engage the edges of the coupling member, the sectional shape of this member being complementary to the internal surface of the base and sides of the trough and being a close sliding fit therein. With this arrangement the abutting ends of two lengths of trough can be coupled together by the coupling member extending into both portions and located therein by engagement with the above mentioned formations.

The projections which are provided to releasably engage the bridge members may also serve, at least in part, as the formations adapted to engage the coupling members.

Also the projections which are provided to releasably engage the bridge members, may also constitute at least part of the formations provided, at the boundary portion of the opening in the trough, to make releasable engagement with the closure strip.

The trough and/or closure member may be formed by extrusion moulding of thermo-setting or thermo-plastic synthetic resinous material and preferably the latter, for in-

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stance polyvinyl chloride, the above mentioned projections and formations being ribs and/or recesses extending throughout the length of the moulded trough.

Two forms of trunking incorporating the invention will now be described by way of example and with reference to the accompanying drawings, wherein:—

FIGURE 1 is an outline of the cross-sectional shape of one form of trunking,

FIGURES 2 and 3 represent details of Figure 1 drawn to a larger scale,

FIGURE 4 is an outline of the cross-sectional shape of a second form of trunking, and,

FIGURES 5 and 6 are details of Figure 4 shown to a larger scale.

The trough is formed of P.V.C. and is in the form of an extruded rectangular open channel the walls of which are of substantially uniform thickness and comprise the base 1 and two sides 2; the opening to the trough extends over substantially the full width of the fourth side.

Referring to the embodiment represented in figures 1—3, each side wall 2 is formed interiorly with three parallel ribs 3, 4 and 5 which extend throughout the length of the channel in the region of the opening, each rib projecting a short distance from the wall with which it is integral towards a corresponding rib on the other wall. These ribs will be referred to as the outer, intermediate and inner ribs, 3, 4 and 5 respectively.

The outer ribs 3, which extend from the boundary edge portions of the sides 2, are formed with inwardly convergent outer faces 6 and with inner faces 7 which are slightly undercut, that is extending at an angle a little less than 90° to the respective sides of the channel.

The intermediate ribs 4 are plane parallel sided webs extending from and normal to the respective sides 2 of the channel and having in that normal direction about twice the dimension of the outer ribs 3.

The inner ribs 5 each comprise a portion 8 adjacent and normal to the respective sides 2 of the channel, and an inner edge portion 9 which is turned towards the base of the trough to form a recess 10 between the inturned portion 9 and the side of the trough.

The closure strip 11, which may be formed of a similar but more rigid material, is thickened on the underside at its marginal portions 12, these portions being so contoured as to be complementary to the above mentioned outer ribs 3. The upper surface of the closure strip 11 is plane, the edge faces 13 are convergent to engage the convergent faces 6 of the outer ribs 3 and the arrangement is such that when in such engagement its upper surface is substantially

flush with the upper edges of the sides 2 of the trough as indicated in Figure 1.

Below its convergent edges 13, the strip 11 exhibits projections 14 for engagement under the outer ribs 3. The undersides 15 of these projections 14 are generally convex and adapted to engage the upper faces of the intermediate ribs 4 as indicated in Figure 1.

The closure strip 11 can be sprung into engagement with the trough by applying pressure to the strip so that the convex faces 15 of the last mentioned projections 14, being in engagement with the convergent faces 6 of the outer ribs 3, will force these ribs 3 and therefore the upper edges of the sides 2 of the trough apart and allow the projections 14 to move past the ribs 3 which will then spring inwardly over the projections into interlocking engagement with the edges of the strip.

The ends of the retaining strips or bridge pieces 16 extending transversely across the trough at intervals can be releasably held between the inner and intermediate ribs 5 and 4 respectively. These bridge pieces 16 are relatively rigid members which are adapted to be sprung into and out of engagement with the ribs 4 and 5.

Where the end of a trough is to be in abutting alignment with and coupled to the end of another trough or a similarly shaped portion of an accessory, the coupling member 17 is a channel section member shaped to fit closely against the inner faces of the base 1 and sides 2 of the trough with its free edges 18 in the above mentioned recesses 10 on the undersides of the inner ribs 5.

Where the parts of the trunking illustrated in Figures 4 to 6 are the same as or similar to corresponding parts of the trunking already described the same reference members are used for convenience of identification. As in the previously described arrangement the trunking shown in these figures comprises a trough in the form of a rectangular channel member comprising a flat base 1 and two parallel sides 2. The inner ribs 5 are similar to those already described and two lengths of the trough may be coupled together as in the previously described arrangement by means of a channel-shaped coupling member 17 the edges of which are accommodated in grooves 10 formed by the parts 8 and 9 of the inner rib 5. The ends of the bridge pieces 16 are in this case engageable in grooves 19 between the root portions 8 of the inner ribs 5 and the lower faces of inwardly directed step formations each comprising a lower limb 10 extending parallel to the root part of the adjacent inner rib and an upper limb 21 inset from and parallel to the side wall

2 of the trough. The part 20 replaces the previously mentioned intermediate rib 4.

The boundary edge of the upper limb 21 is enlarged to form an arcuate bead 22.

5 The closure strip 11 is formed with thickened marginal portions 12 on its underside but in this example there are formed in the portions 12 recesses 23 of complementary shape to the beads 22. The closure strip 10 11 is applied by causing the recesses 23 to snap over and into interlocking engagement with the beads 22. At the extreme edges of the closure strip and beyond the recesses 23, portions 24 are of an appropriate shape to extend completely over the outside of 15 and partially under the beads 22. The overall width of the closure strip 11 is the same as the overall width of the trough.

20 Although formations, such as the inner and intermediate ribs 5 and 4 or 5 and 20 and the grooves between them, are primarily intended to engage the ends of and hold in position bridge members which serve to prevent the displacement of cable from the 25 trough, those formations may also be used to facilitate the attachment to the trough of other devices, for instance, wiring accessories such as junction and terminal boxes, plug and socket connectors, switches and lighting 30 fittings. Thus where the trough is installed with its open side presented downwards or to one side, attachment or suspension members for or being parts of such devices may also be releasably engaged by the afore- 35 mentioned formations.

WHAT WE CLAIM IS:—

1. Trunking comprising a rectangular open U-section trough, a closure strip which is sprung into engagement with the bound- 40 ary portions of the opening, there being provided on the inside of and integral with each of the opposing side walls of the trough two inward projections spaced apart to form between them a recess, the opposed 45 recesses serving to releasably engage the ends of, and thereby hold in position in the trough, a bridge member extending transversely across it.

2. Trunking as claimed in Claim 1 50 wherein the internal projections extend for the full length of the trough and wherein the

trough and closure member are formed of moulded synthetic resinous material.

3. Trunking as claimed in either of Claims 1 or 2 in which the inner of the 55 two projections on each side wall is a rib of which the inner edge portion is turned towards the base of the trough, whereby between the ribs and the adjacent side walls are formed recesses, such that one end of 60 a length of trough is adapted to be engaged by a coupling member having a sectional shape which is complementary to the internal surfaces of the base and sides of the trough, the free edges of the coupling mem- 65 ber engaging in the recesses.

4. Trunking as claimed in any of Claims 1 to 3 in which an inwardly projecting rib is formed along each boundary edge portion 70 of the sides of the trough and is adapted to make releasable engagement with complementary edge portions of the closure strip to hold the strip in a position between the edge portions of the trough.

5. Trunking as claimed in any of Claims 1 to 3 in which the boundary edge portions 75 of the sides of the trough are deflected towards one another in such a way that the inner part of each deflected portion constitutes the outermost of the two projections 80 on the corresponding side wall and the edges of the boundary portions are formed with beads for releasable engagement in complementary recesses formed in the closure strip adapted to be sprung over 85 those portions.

6. Trunking of the form substantially as hereinbefore described with reference to and as shown in Figures 1 to 3 of the 90 accompanying drawings.

7. Trunking of the form substantially as hereinbefore described with reference to and as shown in Figures 4 to 6 of the accompanying drawings.

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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of the Original on a reduced scale

FIG.3.

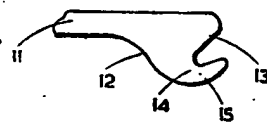


FIG.1.

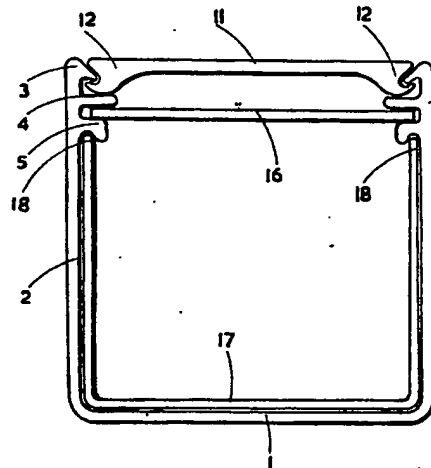


FIG.2.

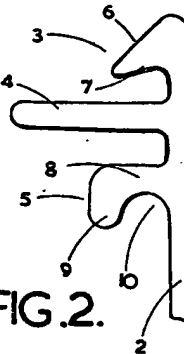


FIG.4.

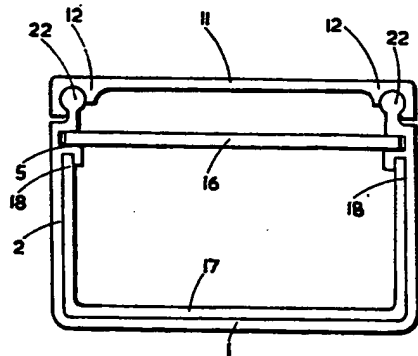


FIG.5.

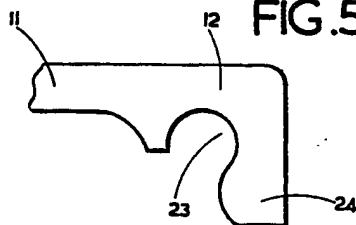


FIG.6.

